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10/044,490	01/09/2002	Yuki Nakamura	2271/66507	9287

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EXAMINER

ANGEBRANDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,490

Applicant(s)

NAKAMURA ET AL.

Examiner

Martin J. Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21,24,27,30,33,36,39,42 and 44-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21,24,27,30,33,36,39,42 and 44-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The response of the applicant has been read and given careful consideration. Responses to the arguments of the applicant are presented after the first rejection to which they are directed. The claims are now limited to AgInTeSb recording layers.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 51-57 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for optical recording media comprising a recording layer formed on a substrate, does not reasonably provide enablement for optical recording media without a substrate. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The specification does not disclosed the recording films as self supporting.

The applicant may also wish to consider including a substrate in the recitation of claims 21,44 and 47

4. Claim 33 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The lower limit appears in claim 21.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 36,39 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As claim 33 fails to further limit claim 21, claims 36,39 and 42 are substantial duplicates of claims 24, 27 and 30 respectively.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 51,53,54 and 57 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Yamada et al. '063.

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See examples 9 and 10 in table 1 on page 14, which has the structure described in [0173]. Examples 2 uses a AlTi (0.5% Ti) reflective layer. [0162]. The combined Sb and Te content can be 81-98.9% (subtracting the minimum values for alpha and beta) [0092-0094]. The reflective layer composition includes Al and additives to reduce corrosion. [0101].

10. Claims 51-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. '063.

It would have been obvious to use other reflective layers, such as AlTi and/or other compositions within the disclosed ranges, where the combined Sb and Te content is between 88 and 98% with a reasonable expectation of forming a useful optical recording medium.

11. Claims 51,53,54 and 57 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Ito et al. '240.

See the composition described with respect to figure 4b on page 4, which has the structure described in [0069-0071]. The combined Sb and Te content can be 75-96.9% (subtracting the minimum values for alpha and beta) [0029-0033]. The reflective layer composition includes Al and additives to reduce corrosion. [0110]. See also examples 2-5 in table 1 on page 6.

12. Claims 51-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. \ '240.

It would have been obvious to use other reflective layers, such as AgTi, AlTi, and/or other compositions within the disclosed ranges, where the combined Sb and Te content is between 88 and 98% with a reasonable expectation of forming a useful optical recording medium.

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13. Claims 51-57 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Nakamura et al. '958.

See the composition described with respect to example 9 in table 1 in column 11, which has the structure described in 10/18-31.

14. Claims 51-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikukawa et al. '722.

Example 3 uses $\text{Ag}_6\text{In}_4\text{Sb}_{62}\text{Te}_{26}\text{Ge}_{0.2}$. The structure is that of example 1, (11/23-58). The Te range may be ~10-50% and the Sb content may be ~40-90%.

It would have been obvious to modify the example 3 by changing the composition to be $\text{Ag}_6\text{In}_4\text{Sb}_{64}\text{Te}_{24}\text{Ge}_{0.5-2}$ with a reasonable expectation of forming a useful optical recording medium.

15. Claims 51-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikukawa et al. '070.

Exaperiment 3, composition 2, which uses $\text{Ag}_{5.8}\text{In}_4\text{Sb}_{62.6}\text{Te}_{25.6}\text{Ge}_{1.9}$. The structure is that of example 1, (7.63-8/56). The Te range may be ~8-40% and the Sb content may be ~35-80%.

It would have been obvious to modify the example 3 by changing the composition to be $\text{Ag}_{5.8}\text{In}_4\text{Sb}_{64.3}\text{Te}_{23}\text{Ge}_{1.9}$ with a reasonable expectation of forming a useful optical recording medium.

16. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Yamada et al. EP 0717404.

Examples 2 and 3 in table 2 have the compositions shown in tables 2 as the recording layer in media comprising a polycarbonates substrate, a 200 nm ZnS-SiO₂ lower dielectric layer,

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a 25 nm AgInTeSb recording layer, a 30 nm ZnS-SiO₂ upper dielectric layer, a 100 nm Al alloy reflective layer and a 5 micron UV cured resin as the protective layer. The sum of the Te and Sb are 91 and 85.4 % respectively. Comparative examples 1 and 2 use the same structure and meet the limitations of the claims. (table 2, cont). The sum of the Te and Sb are 99.5 and 95.9 % respectively. The benefits of adding 2% nitrogen is illustrated in table 3 on page 12. The addition of Ti, Cr or Si to the reflective layer is disclosed. (8/29-31). The maximum number of overwrites is defined by the number before the 1 sigma jitter is above 35 ns. (13/50-51).

With respect to claims 21,24,27,30,33,36,39 and 42, the examiner notes that all the media cited have been initialized and that these initializations are equivalent to that recited in the claims and that the applicant has the burden of proving otherwise through testing and the presentation of declaration evidence as set forth in MPEP 2113 as the claims are directed to products by process. The applicant argues that they have found through extensive experimentation, that the when powers above 1000 J/m² are used, the media have high jitter. **The examiner notes that the extensive data referred to corresponds to the 25 tests in example 24 (table 4) only corresponds to a single medium with an AgInTeSb alloy layer and a specific layered structure. The examiner notes that at least some of the media described in the reference have excellent disc characteristics including C/N > 55 dB and erasability < -35 dB. (page 9) The showing by the applicant is nowhere near the scope of coverage sought. The rejection stands.**

The applicant is claiming the medium in a product by process format, therefore contrary to the position of the applicant, a reasonable assertion by the examiner, based in part upon the properties of the media reported in the prior art for the media of the of the

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prior art, that the media of the prior art and the claimed media are the same places the burden firmly upon the applicant to show that the process of the prior art does not result in media within the scope of the coverage sought. There is no requirements in MPEP 2113 that the exact process used be the same. Phase change recording media are conventionally initialized in the art prior to use. The applicant's characterization of the reference's teachings (as well as those of the other references applied) through mere restatement of the abstract is nowhere near a reasonable treatment of the complete teachings of the reference.

The examiner points to the high ratings of the various examples cited. These characteristics would not be present if the recording layer s was damaged. Further, applicant's own specification states "[0224] When the values shown in FIGS. 4 and 5 are compared, it is found that DOW 1 jitter tends to increase with decreasing energy density E. The range found for the E value is $E > 1000 \text{ J/m}^2$, for which jitter exceeds the 35 nsec that is specified as a standardized jitter value in the Orange Book " Bearing in mind the recording medium needs to conform with standards to be player reliably. The examiner holds that it is anticipated by the cited examples as it makes no sense to describe a medium as acceptable if it cannot be played on a conventional CD player. The rejection stands.

17. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Yamada et al. EP 0735158.

Examples 3, 5-7 comparative example 2 and 3 in table 2 have the compositions shown in tables 2 as the recording layer in media comprising a polycarbonates substrate, a 200 nm ZnS-SiO₂ lower dielectric layer, a 25 nm recording layer, a 30 nm ZnS-SiO₂ upper dielectric layer, a 100 nm Al alloy containing 1 % Si as the reflective layer and a 10 micron UV cured resin as the

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protective layer. The sum of the Te and Sb are 85.5, 92,9291 and 94.5 % respectively. Example 10 in table 2 on page13 also includes nitrogen. The addition of various elements to the recording layer is disclosed. (7/48-52). The use of various alloys of Al, Au, Ag and Cu are disclosed. (9/26-27)

In addition to the arguments above, the examiner notes that example 10 undergoes 15,000 overwrites before experiencing a sudden increase in jitter (13/47), similarly examples 3 and 5-7 are useful with 7,000, 10,000, 8,000 and 10,000 overwrites before the jitter increases. The rejections stand.

18. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Iwasaki et al. JP 03-240590.

See examples E and F in table 1 (page 5), which do not seem to have an increase in C/N or jitter after 10,000 overwrites.

See the response above as no further arguments have been directed at this rejection.

19. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Iwasaki et al. JP 04-078031.

See examples E and F in table I-1 (page 7), which do not seem to have an increase in C/N or jitter after 10,000 overwrites.

See the response above as no further arguments have been directed at this rejection.

20. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Yuzurihara et al. JP 11-070737.

Examples 21,24 and 26-29 in tables 2 and 3 have the compositions shown in these tables as the recording layer in media comprising a polycarbonates substrate, a 170 nm ZnS-SiO₂ lower

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dielectric layer, a 18 nm recording layer, a 20 nm ZnS-SiO₂ upper dielectric layer, a 120 nm Al alloy containing Ti as the reflective layer and a UV cured resin as the protective layer. The sum of the Te and Sb are 90.4 for example 21 and 89.2 % for the others. Note that addition of nitrogen to the recording layers in examples 27-29.

Note in examples example 21 is able to be used for 21,000 overwrites and example 18 is useful for 35,000 overwrites before jitter increases.

See the response above as no further arguments have been directed at this rejection. Also see figure 2.

21. Claims 21,24,27,30,33,36,39,42,49-54 and 57 are rejected under 35 U.S.C. 102(a) as being fully anticipated by Miura et al. JP 2002-002116.

See examples 8 and 22 in table 1 on page 7. See the composition described with respect to example 4,5,14,16-18,23 and 24 in table 1 in column 11, which has the structure described in [0031]. Reflective layers compositions are described in [0025].

See the response above as no further arguments have been directed at this rejection. Note that jitter is measured in the last column of the table 2.

22. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Miura et al. '121.

See examples 8 and 22 in table 1 on page 7.

See the response above as no further arguments have been directed at this rejection. Jitter is disclosed as 7% (9/9).

23. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Ohno et al. EP 0847049.

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Example 5 is an AgGeSbTe optical recording medium which uses a 250 mW (mJ/sec) beam at a linear velocity of 4.5 m/s based upon the data in the applicant's table 4, this would have an irradiation of 600-1000 J/m². Example 7 uses a 400 mW beam with a rotation of 2,700 RPM. The beam is described as an oval with dimensions of 2 x 50 microns, which yields an area of 314 sq. microns ($3.14 \times 10^{-10} \text{ m}^2$). (19/17-20). For example 5 the exposure energy of the irradiation of a spot corresponds to the residence time of the beam at that point (energy x time) for the beam having a long axis of 50 microns ($5 \times 10^{-5} \text{ m}$) with the media rotating at a linear velocity of 2.5 m/s yields a residence time of $2.0 \times 10^{-5} \text{ sec}$. The exposure energy of the beam in joules/m² is $((250 \times 10^{-3} \text{ W} \times 2.5 \times 10^{-5} \text{ Sec}) / 3.14 \times 10^{-10} \text{ m}^2)$ yields 15,923 J/m² assuming no losses. If we were to assume similar losses to those of the applicant's calculations then the exposure is 530 J/m² at the irradiated spot. For example 6, the calculations yield 8,846 J/m². The examiner holds the position, congruent with the applicants calculations, that the power at the spot is less than 600 J/m² due to losses in the optical train. Jitter is disclosed as less than 17.5 nsec (17/38-40) and less than 10% in the cited examples.

The applicant's arguments are that over initialization is a problem, which results in jitter. In the cited reference, the media are described as initialized by low laser powers. The applicant's table shows that for velocities of 5 m/s, the use of 330 mW yields 660 J/m². Using the velocities and power of the beam in the reference and interpolating yields 960 J/m². The applicant bears the responsibility of showing the criticality of the power for all the media bounded by the scope of coverage sought. **The area of the applicant's beam in [0210] is the same, although the dimensions are 1 x 100 microns. Using the data from table 4, the in same treatment of the data as above yields 21,019 J/m² [based upon $(330 \times 10^{-3} \text{ W} \times ((100 \times 10^{-6} \text{ m}) / (5 \text{ m/s})) / 3.14 \times$**

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10^{-10} m^2] yet the applicant reports E in table 4 for $P = 330 \text{ mW}$ and $V = 5 \text{ m/s}$ to be 660 J/m^2 which is 30 times less. *It appears that the applicant is accounting for losses in the optical train, but this is not discussed in the instant application.* The applicant is invited to show the error on the part of the examiner. The applicant's arguments that no data is shown is entirely without merit as evidenced by the calculations provided above based upon the data provided in the reference.

The examiner would appreciate the applicant showing the calculations to support the argument. This would at least help to identify the difference between the applicant's and examiner's positions. The examiner may adopt the position that the applicant has not fully enabled the claimed invention as the difference between the applicant's values in table 1 and those determined through calculation are so divergent. Bald assertion by the applicant are unlikely to be persuasive. The examiner would appreciate the applicant pointing out how the examiner's calculation is flawed and show the correct calculation to ascertain the correct dosage. This should result in a more defensible patent, should one issue.

24. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Ohno et al. 310.

Example 5 is an AgGeSbTe optical recording medium which uses a 250 mW beam at a linear velocity of 4.5 m/s based upon the data in the applicant's table 4, this would have an irradiation of less than 1000 J/m^2 . Example 8 uses a 300 mW beam at a linear velocity of 4.5 m/s. Example 10 uses a 400 mW beam with a rotation of 2,700 RPM.

The applicant's arguments are that over initialization is a problem, which results in jitter. In the cited reference, the media are described as initialized by low laser powers. The applicant's

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table shows that for velocities of 3 m/s, the use of 330 mW yields 1100 J/m^2 . Using the velocities and power of the beam in the reference yields 534 J/m^2 . The applicant bears the responsibility of showing the criticality of the power for all the media bounded by the scope of coverage sought. The rejection stands for the reasons above.

25. Claims 21,24,27,30,33,36,39,42 and 49-50 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Tominaga et al. '157.

Example 1B is an AgGeSbTe optical recording medium which uses a 8 mW beam at a linear velocity of 3 m/s based upon the data in the applicant's table 4, this would have an irradiation of less than 1000 J/m^2 . The dimensions of the beam are not provided, but for that velocity (3 m/s), the exposure energy is almost two orders of magnitude below those described by the applicant. Assuming the worst case of a long beam of 1×100 microns, which has the longest residence time for the unit area exposed yields 849.3 J/m^2 assuming no losses.

The applicant bears the responsibility of showing the criticality of the power for all the media bounded by the scope of coverage sought.

26. Claims 21,24,27,30,33,36,39,42 and 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over **either one of** Yamada et al. EP 0717404, Yamada et al. EP 0735158, Iwasaki et al. JP 03-240590 **or** Yuzurihara et al. JP 11-070737, **in view of** Ando et al. '175 and either of Suzuki et al. EP 1111598 **or** Suzuki et al. '780.

Ando et al. '175 describes the embossing of data relating to disk size, read out rate, recording density, serial numbers, linear velocity conditions, read power, peak power, base power and manufacture information (15/55-16/9)

Suzuki et al. EP 1111598 teach the determination of the performance characteristics of an optical recording medium including the optimum recording power [0021] and the sensitivity of the medium (gamma) [0016]. The use of both of these allows a range of useful laser powers and prevents selection of an improper laser power. [0021].

Suzuki et al. '780 teach the determination of the performance characteristics of an optical recording medium including the optimum recording power (abstract and 4/53+) and the sensitivity of the medium (gamma) (3/3-35 and 4/12-5/59). The use of both of these allows a range (margin) of useful laser powers and prevents selection of an improper laser power. (4/12-5/59).

To support the assertion that embossing information relative to the performance characteristics of the optical recording media would have been obvious, the examiner cites Ando et al. '175 which teaches the provision of control data and specification data for the optical recording medium in a non-write-able portion of the medium and Suzuki et al. EP 1111598 or Suzuki et al. '780 which describe specific methods of characterizing the performance and holds that it would have been obvious to one skilled in the art to modify the media of **either one of** Yamada et al. EP 0717404, Yamada et al. EP 0735158, Iwasaki et al. JP 03-240590 **or** Yuzurihara et al. JP 11-070737 by adding performance data such as that described by either of Suzuki et al. EP 1111598 or Suzuki et al. '780 to prevent improper choice of laser powers and to provide this as embossed information as described by Ando et al. '175 to allow the user for forgo the optimization process.

The applicants arguments neglects to recognize that the values of R and S actually correspond to real parameters in the recording process, but these values are not recorded in the

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medium as the values of P_i and P_o are, but are chosen when writing to the medium. These really limit the process of use, not the medium as they are never written into the medium. The examiner reiterates that the claims are to the media, not the process of use. Were the claims directed to the process of use, the applicant's arguments would be at least more persuasive as the reference determines the same basic information (the optimum operating parameters) for the medium. In particular the optimum recording power range and the sensitivity of the medium.

27. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

28. Claims 51-57 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2,4,6,7,9,11 and 13-14 of U.S. Patent No. 6592958.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the current claims and those of the patent overlap and provide coverage for the same subject matter.

29. Claims 51-57 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14,17-25 and 27-32 of copending

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Application No. 09/996171 (US 2002/0110063). Although the conflicting claims are not identical, they are not patentably distinct from each other because the current claims and those of the copending patent overlap and provide coverage for the same subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

30. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

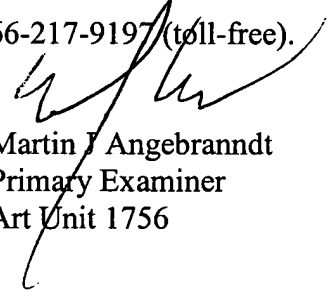
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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